B) AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of filtering at least two series of seismic data representative of the same subsurface zone, the method being characterized by

determining a cross variogram of these data series and

solving a co-kriging equation which results from this determination for automatically deducing an estimate of the component that is common to the data series, ~~and from the estimate, resolving~~

wherein each of the data series is resolved into the sum of ~~their~~ said common component and its respective orthogonal residues, said resolution of the data series ~~being~~ used for determining the topography of the subsurface zone ~~subsoil~~.

2. (Canceled).

3. (Previously Presented) A method according to claim 1, characterized by

determining the orthogonal residues for the various data series by subtracting the estimated common component from each of the data series.

4. (Previously Presented) A method according to claim 3, characterized by

implementing kriging analysis to resolve said orthogonal residues.

5. (Currently Amended) A method of processing seismic data, comprising:

comparing two series of seismic data corresponding, for the same zone, to grids of at least one common attribute obtained at two distinct values of at least one given parameter, said comparing including filtering at least two series of data representative of the same subsurface zone by determining a cross variogram of these data series and solving a co-kriging equation which results from this determination for automatically deducing an estimate of the component that is common to the data series, ~~and from the estimate, resolving~~

wherein each of the data series is resolved into the sum of ~~their~~ said common component and its respective orthogonal residues, said common component of the data series used for determining the topography of the subsurface zone.

6. (Currently Amended) A method of filtering at least one series of seismic data representative of at least one subsurface zone, the method being characterized by

identifying a model of a component of three-dimensional variability of its variogram,

subtracting said model from the experimental variogram, and

solving the kriging equation corresponding to the different variograms in order to deduce an estimate of the corresponding variability component [[on]] of the data series,

wherein said estimate is used for determining the topography of the subsurface zone.

7. (Currently Amended) A method processing seismic data, comprising:

comparing two series of seismic data corresponding, for the same subsurface zone, to grids of at least one common attribute obtained at two different instants, said comparing including

filtering at least two series of seismic data representative of the same subsurface zone by determining a cross variogram of these data series and solving a co-kriging equation which results from this determination for automatically deducing an estimate of the component that is common to the data series, ~~and from the estimate, resolving~~

wherein each of the data series is resolved into the sum of ~~their~~ said common component and its respective orthogonal residues, said common component of the data series used for determining the topography of the subsurface zone.

8.-10. (Canceled)

11. (Original) A method according to claim 5, characterized by

determining the orthogonal residues for the various data series by subtracting the estimated common component from each of the data series.

12. (Original) A method according to claim 11, characterized by implementing kriging analysis to resolve said orthogonal residues.

13. (Canceled).

14. (Original) A method according to claim 7, characterized by determining the orthogonal residues for the various data series by subtracting the estimated common component from each of the data series.

15. (Original) A method according to claim 14, characterized by implementing kriging analysis to resolve said orthogonal residues.